

## Vishay Semiconductors

# **Small Signal Fast Switching Diodes**



#### **FEATURES**

- · Fast switching speed
- · High reliability
- High conductance
- For general purpose switching applications
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>





FREE

#### **DESIGN SUPPORT TOOLS** click logo to get started



#### **MECHANICAL DATA**

Case: DO-35 (DO-204AH)
Weight: approx. 125 mg
Cathode band color: black
Packaging codes / options:

TR/10K per 13" reel (52 mm tape), 50K/box TAP/10K per ammopack (52 mm tape), 50K/box

PARTS	PARTS TABLE					
PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS		
1N914	1N914TR or 1N914TAP	1N914	Single	Tape and reel / ammopack		

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Repetitive peak reverse voltage		$V_{RRM}$	100	V		
Working peak reverse voltage		$V_{RWM}$	75	V		
DC blocking voltage		V <sub>R</sub>	75	V		
RMS Reverse voltage		V <sub>R(RMS)</sub>	53	V		
Forward continuous current		I <sub>F</sub>	300	mA		
Average rectified current	Half wave rectification with resistive load and f > 50 MHz	I <sub>F(AV)</sub>	200	mA		
Non repetitive peak forward aurae aurrent	t = 1 s	I <sub>FSM</sub>	1	А		
Non repetitive peak forward surge current	t = 1 μs	I <sub>FSM</sub>	4	Α		
Power dissipation	I = 4 mm, T <sub>L</sub> = 25 °C	P <sub>tot</sub>	500	mW		

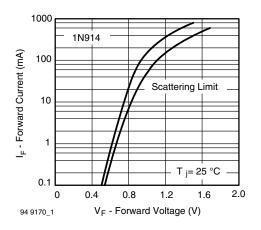
<b>THERMAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air	I = 4 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	300	K/W	
Junction temperature		Tj	175	°C	
Storage temperature range		T <sub>stg</sub>	-65 to +175	°C	



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>			1	V
Breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>(BR)</sub>	100			V
	V <sub>R</sub> = 75 V	I <sub>R</sub>			5	μΑ
Peak reverse current	V <sub>R</sub> = 20 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			50	μA
	V <sub>R</sub> = 20 V	I <sub>R</sub>			25	nA
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz	C <sub>D</sub>			4	pF
Reverse recovery time	$I_F = 10 \text{ mA}, i_R = 1 \text{ mA}, V_R = 6 \text{ V}, R_L = 100 \Omega$	t <sub>rr</sub>			4	ns

### TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)





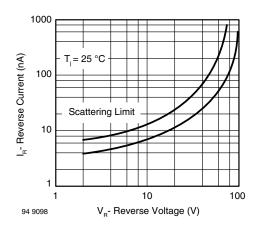
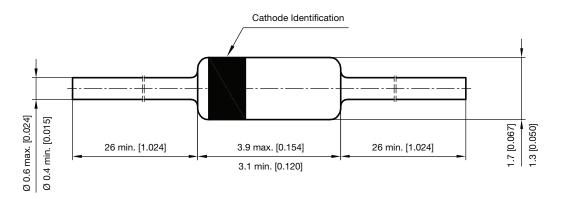


Fig. 2 - Reverse Current vs. Reverse Voltage

### PACKAGE DIMENSIONS in millimeters (inches): DO-35 (DO-204AH)



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